

Monitoring Data Record

Project Title: R-2210A Site 2 (Waynesville Site 2) COE Action ID: 200130653
Stream Name: UT Raccoon Creek DWQ Number: 010409
City, County and other Location Information: Sta. 17 on Bus. 23 S in Waynesville, Haywood Co.
Date Construction Completed: N/A Monitoring Year: (5) of 5
Ecoregion: _____ 8 digit HUC unit 06010106
USGS Quad Name and Coordinates: _____

Rosgen Classification: _____

Length of Project: 900' Urban or Rural: Rural Watershed Size: _____
Monitoring DATA collected by: M. Green and J. Young Date: 3/4/09

Applicant Information:

Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Rd. Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov

Consultant Information

Name: _____
Address: _____
Telephone Number: _____ Email address: _____

Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level (1) 2 3

Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit States: NCDOT shall perform the following components of Level I monitoring twice each year for the 5 year monitoring period (summer and winter): Reference photos, plant survival, and visual inspection of channel stability. If less than two bankfull events occur during the first 5 years, NCDOT shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the 5 year monitoring period, the USACE, in consultation with resource agencies, may determine that further monitoring is not required.

Section 1. PHOTO REFERENCE SITES

(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site: 6 reference points, 2 photos at each
Dates reference photos have been taken at this site: 5/20/04, 11/1/04, 5/31/05, 3/20/06,
10/18/06, 2/28/07, 9/12/07, 2/12/08, 8/13/08, 3/4/09

Individual from whom additional photos can be obtained (name, address, phone): _____

Other Information relative to site photo reference: _____

If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.

Section 2. PLANT SURVIVAL

Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: Vegetation is dormant at this time. Stream is vegetated with alder, dogwood, maple, elderberry, sycamore, black willow, and thick herbaceous vegetation. This stream relocation was replanted in February 2006 due to the lack of woody vegetation noted on previous evaluations. It was noted during the February 2008 evaluation that the some of the woody vegetation had been cut down due to the power company maintaining the vegetation underneath the power lines. NCDOT proposed not to do anymore replanting due to the fact that the vegetation underneath the power lines will be maintained on a routine basis. NCDOT proposes to discontinue vegetation monitoring at R-2210A (Site 2) UT to Raccoon Creek stream relocation.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

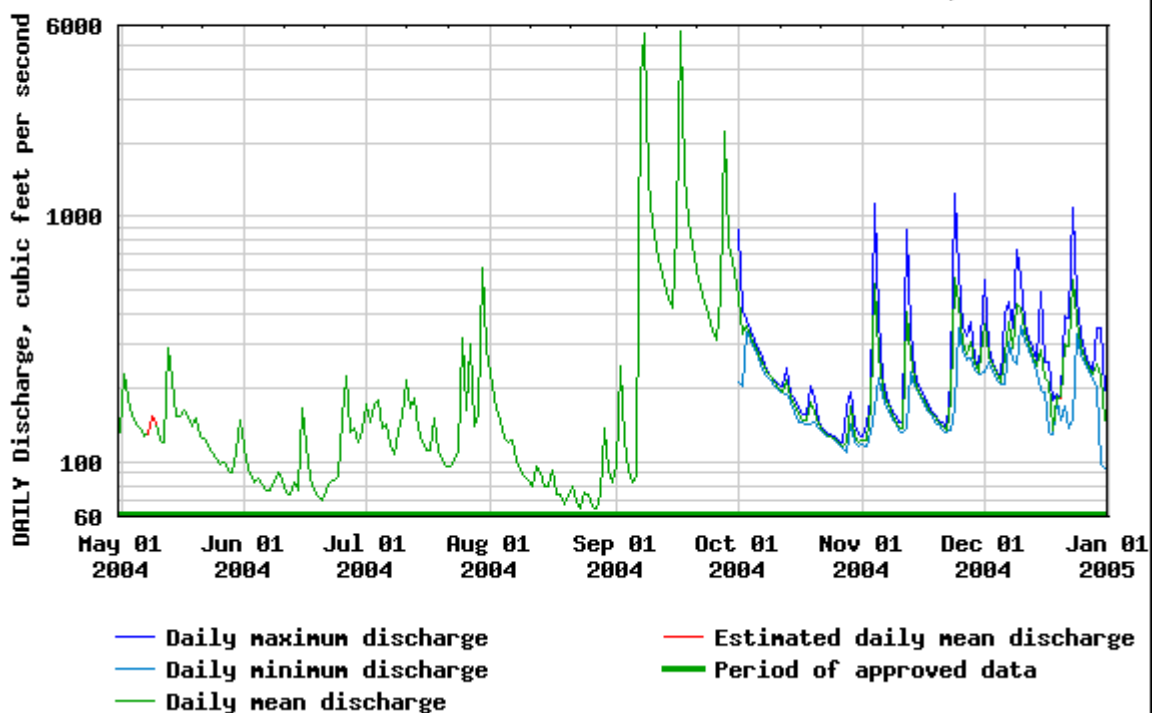
The stream is stabilized for the Year 5 Winter Evaluation. A bankfull event has occurred since the last monitoring evaluation. Some minor bank scouring was noted at Sta. 17+60 on the right bank. NCDOT visually documented 2 bankfull events that were noted during the 2004, 2006, and 2009 evaluations. A review of known USGS surface water gages identified one gage approximately 4.5 miles from the R-2210A (Site 2) UT to Raccoon Creek stream relocation which is the West Fork Pigeon Creek gauge near Bethel, NC. The West Fork Pigeon gauge has a drainage area of 58.4 square miles. It is situated in USGS Hydrologic Unit 06010106. Based on the drainage area associated with the gauge, the correlated bankfull discharge according to the NC Mountain and Piedmont Regional Curve is approximately 2800 cubic feet per second (cfs). A review of peak flows conducted for the period between May 2004 to March 2009 shows that there was approximately 8 bankfull events during our monitoring period. The USGS graph depicting the peak flows occurring during our monitoring period are below. NCDOT proposes to discontinue channel stability monitoring at R-2210A (Site 2) UT to Raccoon Creek stream relocation.

Date Inspected 3/4/09	Station Number Sta. 17+60	Station Number	Station Number	Station Number	Station Number
Structure Type					
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?	Minor bank scouring on right bank				
Other problems noted?					

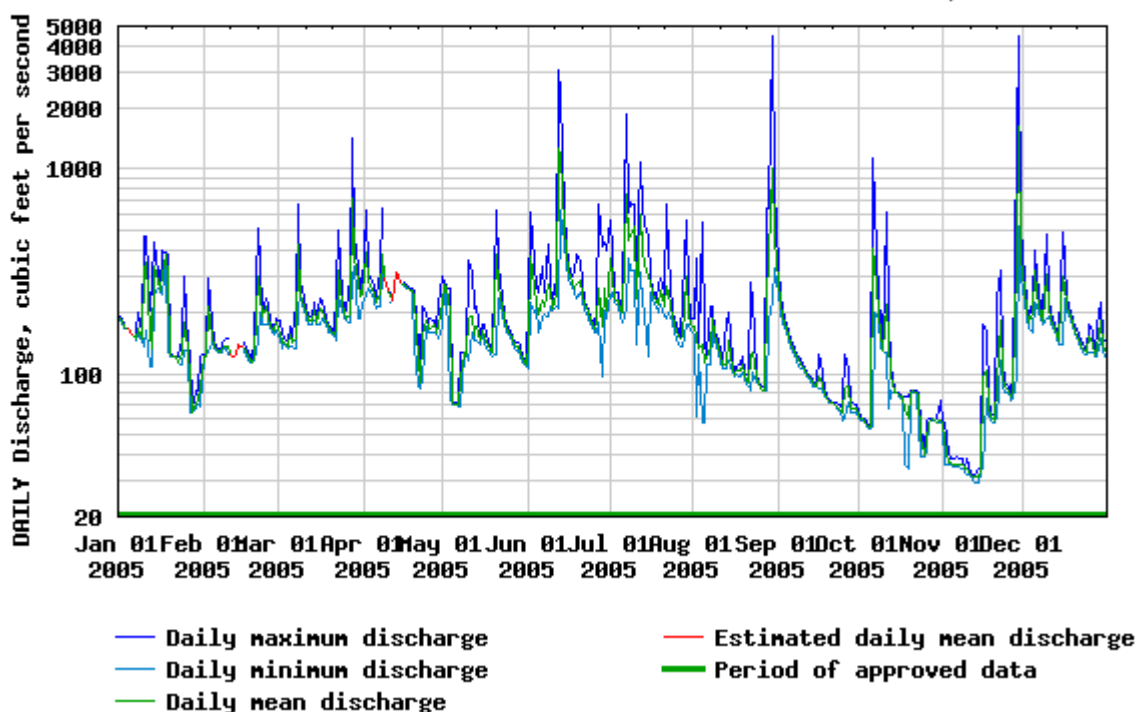
NOTE: Attach separate narrative sheets to each monitoring report describing/discussing the overall monitoring results. Include the identification of specific problem areas/channel failures, estimated cause and proposed/required remedial action. This should include a brief discussion of any parameter that has changed significantly from as-built.



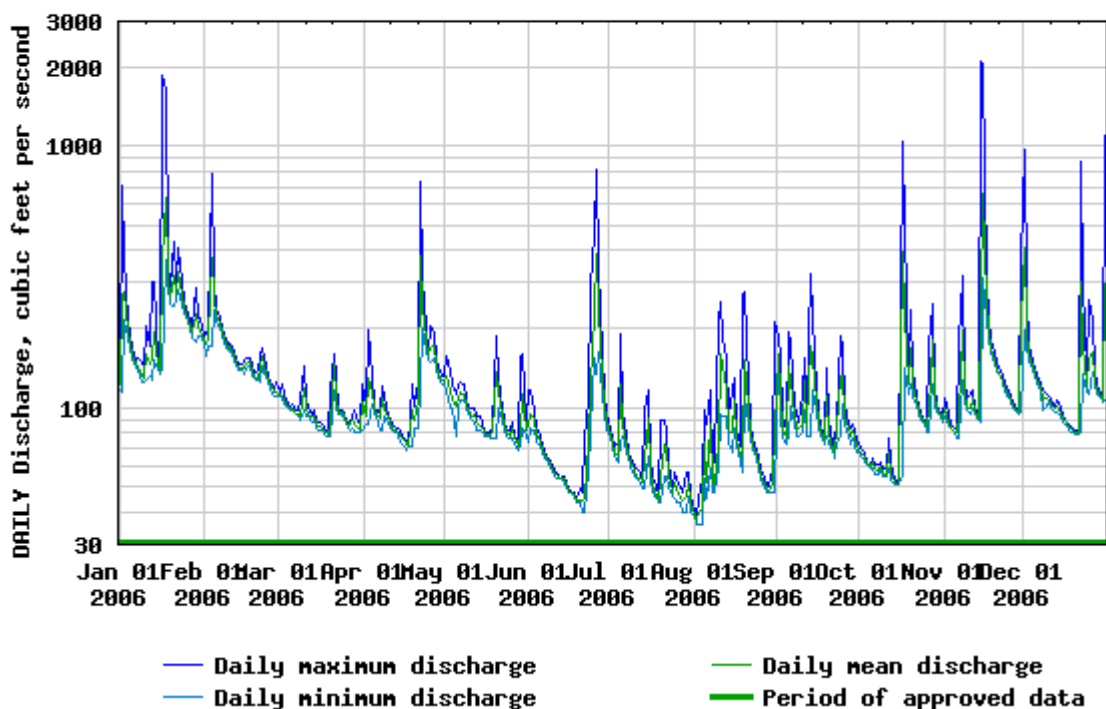
USGS 03456100 WEST FORK PIGEON RIVER AT BETHEL, NC



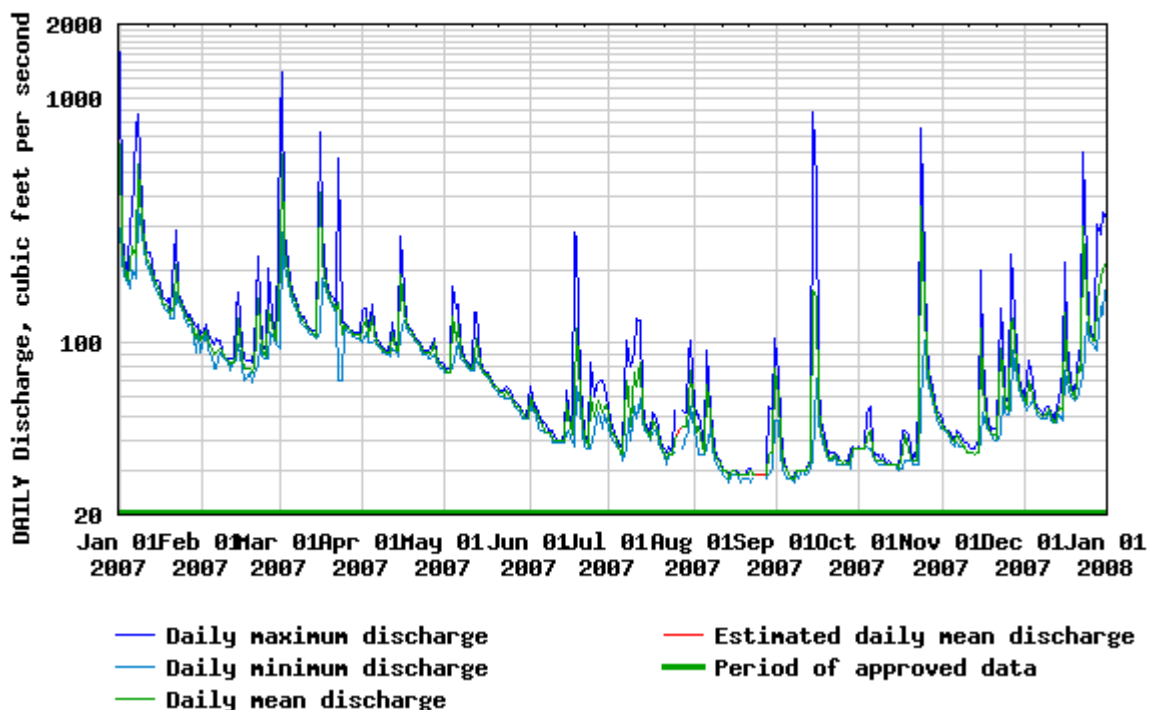
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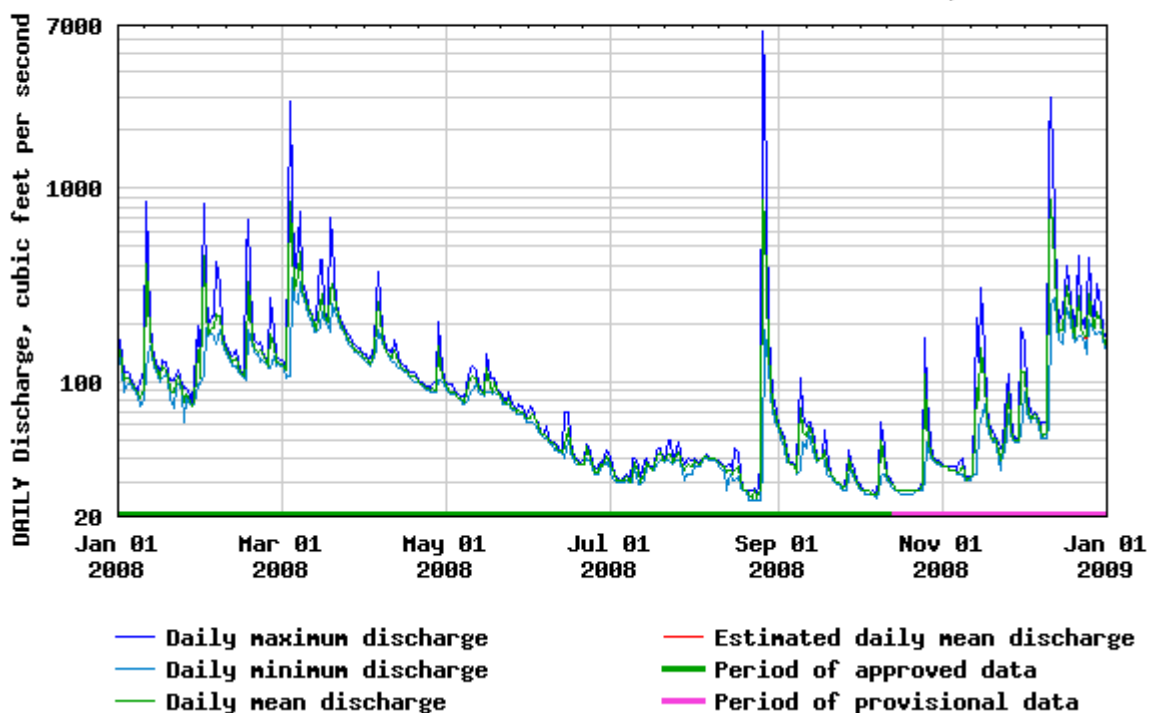


USGS 03456100 WEST FORK PIGEON RIVER AT BETHEL, NC

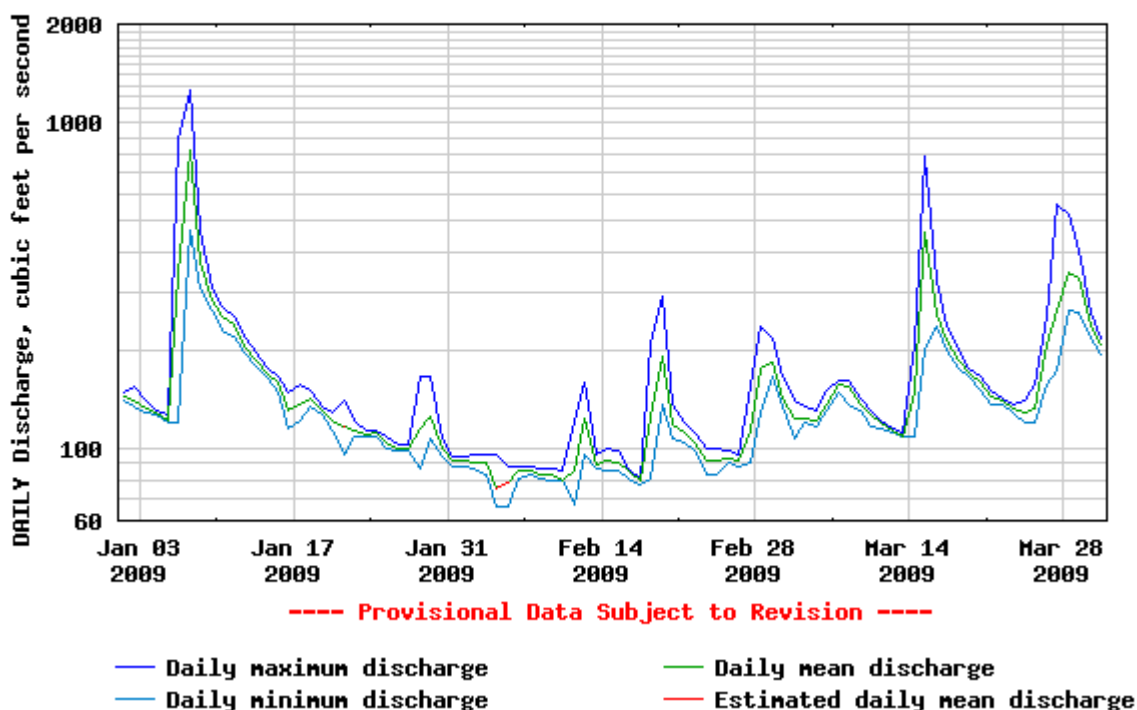




USGS 03456100 WEST FORK PIGEON RIVER AT BETHEL, NC



USGS 03456100 WEST FORK PIGEON RIVER AT BETHEL, NC



Waynesville Site 2



Photo 1 (Upstream)



Photo 2 (Downstream)



Photo 3 (Upstream)



Photo 4 (Downstream)



Photo 5 (Upstream)



Photo 6 (Downstream)

Year 5 Winter – March 2009

Waynesville Site 2



Overview looking stream (upstream)



Overview looking stream (downstream)

Year 5 Winter – March 2009

